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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,665	10/24/2003	Jung-Hwa Kang	0808-0345P	6347
2292	7590	08/05/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			NGUYEN, CAM N	
			ART UNIT	PAPER NUMBER
			1754	
DATE MAILED: 08/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/691,665

Applicant(s)

KANG ET AL.

Examiner

Cam N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/22/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Claim Objections

1. Claims 1 & 3-5 are objected to because of the following informalities:
  - A. In claim 1, line 1 of step a), "kinds" is suggested change to --members--.
  - B. In claim 1, line 3 of step a), "chrome" should be changed to --chromium--.
  - C. In claim 1, line 3 of step b), --a pH of-- is suggested insert before "3.5".
  - D. In claim 1, line 6 of step d), "chrome" should be changed to --chromium--.
  - E. In claim 3, line 3, "kinds" is suggested change to --members--.
  - F. In claim 4, line 3, "kinds" is suggested change to --members--.
  - G. In claim 5, line 4, "kinds" is suggested change to --members--.
  - H. In claim 5, line 6, "chrome" should be changed to --chromium--.
  - I. In claim 5, line 6, "alkali earth" should be changed to --alkaline earth--.
  - J. In claim 5, line 7, --a pH of-- is suggested insert before "3.5".
  - K. In claim 5, line 15, "chrome" should be changed to --chromium--.
  - L. In claim 5, line 17, "alkali earth" should be changed to --alkaline earth--.

Appropriate correction is required.

### Claim Rejections - 35 USC § 112 (Second Paragraph)

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Regarding claim 1, step a), it appears that according the chemical formula recited in step d), all four components (Mo, W, V, and A) are required, but step a) only requires "one kind of metal salt" as a minimum requirement to prepare the catalyst suspension. This is unclear and renders the claim vague and indefinite.

B. Regarding claim 1, step a), it appears that "strontium" belongs to the alkaline earth metals group. Thus, it should not be listed separately. This is confusing.

C. Regarding claim 1, step a), the chemical formula recited in step d) requires "V", but "V" is not listed as one of the metal salts group in step a). This is unclear and renders the claim vague and indefinite.

D. Regarding claim 5, same as A – C above.

#### **Double Patenting**

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 & 5 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 & 5 of copending Application No. 10/509,645 (hereinafter copending '645). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

It is considered the instantly claimed process is the same as the copending '645 process, except for the following differences.

The first difference, is that the instant claim requires the additional "base solution". It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added the additional "base solution" to the process of the copending '645 in order to neutralize the solution to control the acidity of the slurry because it is conventional and known to do so in the catalyst art.

The second difference, is that the instant claim does not specifically recite the step of "pulverizing and molding the dried catalyst". It is considered this step is embraced by the claimed process and not being excluded due to the opening ended phrase "comprising" in the preamble.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

**Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krabetz et al., "hereinafter Krabetz", (US Pat. 4,259,211) in view of Khoobiar (US Pat. 4,271,040).

Krabetz discloses a catalyst comprising a premolded inert carrier having a rough surface which has been coated with an active catalyst composition of the formula  $\text{Mo}_{12}\text{A}_a\text{B}_b\text{C}_c\text{D}_d\text{O}_x$ , wherein: A is a mixture of V and W; B is copper or copper in a mixture with a metallic element selected from the group consisting of Fe, Mn, Ni, and Cr; C is a metallic element selected from the group consisting of Nb, Ta, Bi, Sb, Sn, Th, Ce, and U; D is a metallic element selected from the group consisting of Li, Na, K, Rb, Cs and Tl; and a is from 0.5 to 12 for "vanadium" and from 0.2 to 6 for "tungsten", the sum for "vanadium" and "tungsten" being from 2.5 to 18, b is from 0.5 to 8, the meaning of b for copper being 0.5 to 6, c is from 0 to 10, d is from 0 to less than 0.1 and x is from 41 to 127.75, said active catalyst composition is first manufactured, before its application to the carrier, from thermally easily decomposed salts of the metallic components by mixing aqueous solutions, slurries or moist solid masses of said easily decomposed salts, drying the mixture and calcining the dried composition at from 140°C to 600°C, and said active catalyst composition in a particle size reduced to less than 150

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micromoter than being applied together with water to the rough surface of the premolded carrier to form an active catalyst layer, etc. (see col. 10, claim 1).

The difference between the claimed process and the disclosed process, is that the disclosed process does not include step b), which is "introducing a base solution and an acid solution into the catalyst suspension of step a) to control acidity of the catalyst suspension to a pH of 3.5 to 6.5".

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated this step into the process of Krabetz and to have done the same in order to control and acidity of the suspension because it is known and conventional to do so, as evidenced by Khoobiar (see Khoobiar at col. 4, ln 3-7). Specifically, Khoobiar fairly suggests that in some cases the solutions may have acids and/or bases added to them to facilitate dissolution of the catalyst precursors. For example, acids such as hydrochloric acid or nitric acid, or bases such as ammonium hydroxide can be used as desired.

#### **Citations**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form attached.

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**Conclusion**

9. Claims 1-5 are originally pending. Claims 1-5 are rejected. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *CNN*  
August 01, 2005

*Cam N. Nguyen*  
**CAM N. NGUYEN**  
**PRIMARY EXAMINER**  
*AV-1754*